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UNIVERSITY OF DELAWARE
NEWARK, DELAWARE
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COLLEGE OF ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING
112 DUPONT HALL
PHONE: 301-736-2442

CORRESPONDENT'S PHONE:
302-726-2431

November 4, 1971

Mr. Uldis Karins, P. E.
County Engineer
Department of Public Works
New Castle County Engineering Building
Kirkwood Highway
P. O. Box 165
Wilmington, Delaware 19808

Dear Mr. Karins:

In reply to your letter of August 13, 1971, and your inquiries in person on October 28, 1971, I am writing to reaffirm a professional opinion rendered previously. The sanitary landfill at Tybouts Corner has caused odor problems for the surrounding area since shortly after July 1, 1971. Because the Civil Engineering Department at the University of Delaware had been monitoring the leachate from this landfill, testing of the leachate was continued through October 5, 1971.

On September 7, 1971, Gerald P. Rasmussen sent you a letter that contained graphical presentation of the data collected from January 1, 1971 to that date. In this letter Professor Rasmussen devoted paragraph two through seven of page two to a discussion of the odor problems of the Tybouts Corner Landfill. Professor Rasmussen and myself had discussed the problem at some length, and after data review and site inspection, we concurred that the accelerated leaching from the landfill was caused by the waste water ponds atop the landfill.

On October 23, 1971, Professor Rasmussen and myself made another inspection of the landfill, and found conditions to be even worse than previously. The leachate next to Highway 301 was flowing as a spring in two places, and the flow was estimated to be about one gallon per minute from each of these "springs." The lower washing pond was black in color and gave forth a noxious odor. The gravel washing process was in operation that day, but we were told that it had been shut down for several days prior to this.

Leachate was issuing forth from the toe of a slope about 600 feet south of well P-10, only a short distance downhill from a stockpile of wet gravel. No leachate was observed next to Highway 13 even though there was some evidence that a small amount of leaching had occurred previously.

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I visited the landfill at Tybouts Corner again on October 28, 1971. I found the "springs" along Highway 301 to be flowing just as before, but the lower washing pond was light brown in color and not nearly as offensive in smell as on October 23, 1971.

After review of the thesis entitled "Sanitary Landfill for New Castle County, Delaware" by James P. Chao, and several literature articles, in particular JPCF 43, 2084-2100, I have concluded that the present gravel washing operation at Tybouts Corner is incompatible with the sanitary landfill. The wash pond(s) atop the landfill accelerates leachate production markedly, and the concentrated leachate causes low dissolved oxygen levels in the washing ponds, and odors result. The wash ponds should be removed from the landfill as soon as practical, particularly the ponds in the area of well P-9, and steps taken to stabilize the contents of the ponds as well as any leachate that is produced after the ponds are removed. The odor problem at Tybouts Corner will not be resolved by itself, and action should be taken before it gets worse. //

Sincerely yours,

*Larry L. Olson*Larry L. Olson
Assistant Professor

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